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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,684	03/20/2001	Ron Dembo	13408.00007	1100

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EXAMINER

DASS, HARISH T

ART UNIT PAPER NUMBER

3628

DATE MAILED: 01/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/811,684

Applicant(s)

DEMBO ET AL.

Examiner

Harish T Dass

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-19 and 24-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory

subject matter, particularly, an abstract idea.

As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "[p]romote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement thereof." Therefore, a fundamental premise is that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for "inventions" that promote the progress of "science and the useful arts". The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). In *Toma*, the court held that the recited mathematical algorithm did not render the claim as a whole non-statutory using the Freeman-Walter-Abele test as applied to *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts". The court developed a "technological arts" analysis:

The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter...is statutory, not on whether the prior art which the claimed subject matter purports to replace...is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. *In re Toma* at 857.

In *Toma*, the claimed invention was a computer program for translating a source human language (e.g., Russian) into a target human language (e.g., English). The court found that the claimed computer implemented process was within the "technological art" because the claimed invention was an operation being performed by a computer within a computer.

The decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* never addressed this prong of the test. In *State Street Bank & Trust Co.*, the court found that the "mathematical exception" using the Freeman-Walter-Abele test has little, if any, application to determining the presence of statutory subject matter but rather, statutory subject matter should be based on whether the operation produces a "useful, concrete and tangible result". See *State Street Bank & Trust Co.* at 1374. Furthermore, the court found that there was no "business method exception" since the court decisions that purported to create such exceptions were based on novelty or lack of enablement issues and not on statutory grounds. Therefore, the court held that "[w]hether the patent's claims are too broad to be patentable is not to be judged under §101, but rather under §§102, 103 and 112." See *State Street Bank & Trust Co.* at 1377. Both of these analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, *State Street* abolished the Freeman-Walter-Abele test used in *Toma*. However, *State Street* never addressed the second part of the analysis, i.e., the "technological arts" test established in *Toma* because the invention in *State Street* (i.e., a computerized system for determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within

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the technological arts under the Toma test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a §101 rejection finding the claimed invention to be non-statutory. See *Ex parte Bowman*, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).

In the present application, Claims 1-19 and 24-29 have no connection to the technological arts. None of the steps indicate any connection to a computer or technology, database can be collections of charts, etc. and risk engine can be a calculator or slide-rule for calculation.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, 15-16, 18-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Dembo* (US 5,148,365) in view of *Moor et al* (herein after *Moore*; US 5,446,885) and *Tull, Jr. et al* (hereinafter *Tull, Jr.* - US 6062056).

Re. Claims 1 15-16, 18-20, 24-29 *Dembo* discloses - selecting a set of financial instruments (options or securities), each financial instrument (option) in said set having a model defined therefore, each model operating on at least one risk factor to produce a value for said financial instrument (option), - selecting a set of scenarios, each scenario comprising a risk factor value for each risk factor operated on by said models of said financial instruments (options) at least a first and second time interval and each

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scenario having a probability value assigned thereto, said probability value representing the likelihood of said scenario occurring and - at least one risk engine (**processing software**) operable to determine an instrument risk value (risk exposure) for each financial instrument in said set of financial instruments, said risk value determined by evaluating, in view of said risk factors values in each said scenario and at each of at least a first and second time interval, a model stored for said instrument [see entire document particularly, Abs; C1 L4-L67; C2 L43 to C3 L12; C4 L50 to C5 L12; C8 L27-L67; Claims],

(15) step of modifying said set of scenarios to change at least one risk factor value and performing steps (iii) through (v) to produce a new risk metric [C1 L4-L67; C2 L43 to C3 L12; C4 L50 to C5 L12; C8 L27-L37],

(16) said at least one risk factor value is changed such that said value does not change with time [C1 L4-L67; C2 L43 to C3 L12; C4 L50 to C5 L12; C8 L27-L67], and
databases which store information for options (options are financial instruments), risk engine (**processing software**), [C1 L4-L67; C2 L43 to C3 L12; C4 L50 to C5 L12; C8 L27-L67;].

Dembo, explicitly, does not disclose, - *applying* said selected set of scenarios to said set of financial instruments to produce at least one instrument risk value for each financial instrument in said set of financial instruments for each scenario in said set of scenarios for each time interval, and *applying* said selected set of scenarios to said portfolio to produce an instrument risk value for each financial instrument in said portfolio for each scenario in said set of scenarios for each time interval;

- storing instrument risk values produced at step (iii) in a database, a database to store each said determined instrument risk value and storing in a database each instrument risk value produced at step (ii);

- for a portfolio of instruments comprising at least a subset of said set of financial instruments, producing a desired risk metric, producing a first measure of said at least one risk metric, wherein said producing step is performed by at least one aggregation engine adapted to retrieve for each financial instrument in said portfolio, stored instrument risk values for each scenario in said set of scenarios for each time interval from said database;

sum said retrieved instrument risk values at each scenario at each time interval to produce aggregated risk values for said portfolio; and compute said desired risk metric using said aggregated risk values for said portfolio.

(18) step of storing said produced risk metrics in said database

(19) the step of determining a credit exposure risk for at least one first party who is counter party for at least one of said financial instruments in said set of financial instruments, determining a subset of said set of financial instruments for which said first party is the counter party and determining the credit exposure for said first party by retrieving said stored values and said associated probabilities from said database.

- producing a second measure of said at least one risk metric, wherein said producing step at step (vi) is performed by said at least one aggregation engine further adapted to combine associated probabilities and said additional instrument risk values for said **altered** financial instruments with said stored instrument risk values for **unaltered**

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financial instruments in said set of financial instruments retrieved from said database to a compute said second measure of said at least one risk metric, and

- for each financial instrument in said set of financial instruments affected by said proposed transaction, altering each said affected financial instrument in accordance with said proposed transaction and applying said selected set of scenarios to each altered financial instrument to produce one or more additional instrument risk values for each altered financial instrument for each scenario in said set of scenarios for each time interval;

(25) wherein said additional instrument risk values for said **altered** (updated) financial instruments are stored in said database.

(26) wherein said proposed transaction comprises **altering** the amount of at least one financial instrument in said set of financial instruments,

(27) wherein said proposed transaction comprises adding a financial instrument to said set of financial instruments.

(28) wherein steps (v) and (vi) are performed for a second proposed transaction and said second measure of said at least one risk metric is produced for each of said proposed transactions.

However, Moore discloses *applying* said selected set of scenarios to said set of financial instruments to produce a risk value for each financial instrument in said set of financial instruments for each scenario in said set of scenarios for each time interval, storing in a database each financial instrument risk value produced for each financial instrument in said set, and for a portfolio of financial instruments comprising

at least a subset of said set of financial instruments, producing a desired risk metric from said associated probabilities and said determined risk values for each financial instrument of said portfolio by retrieving said stored risk values from said database, and step of storing said produced risk metrics in said database and step of determining a credit exposure risk for at least one first party who is counter party for at least one of said financial instruments in said set of financial instruments, determining a subset of said set of financial instruments for which said first party is the counter party and determining the credit exposure for said first party by retrieving said stored values and said associated probabilities from said database and risk engine (GRMS – Global Risk Management system) [Abs; figures 1-7; C1 L8 to C2 L49; C3 L8-L27; C3 L48-L63; C4 L19-L36; C14 L7-L12; C30 L25 to C31 L47].

Further, Tull, Jr. discloses - storing instrument risk values produced at step (iii) in a database, a database to store each said determined instrument risk value and storing in a database each instrument risk value produced at step (ii); $[(1-v)(24-iv)(20-c)$ for a portfolio of instruments comprising at least a subset of said set of financial instruments, producing a desired risk metric, producing a first measure of said at least one risk metric, wherein said producing step is performed by at least one aggregation engine (mathematical programming) adapted to retrieve for each financial instrument in said portfolio, stored instrument risk values for each scenario in said set of scenarios for each time interval from said database; sum said retrieved instrument risk values at each scenario at each time interval to produce aggregated risk values for said portfolio; and compute said desired risk metric using said aggregated risk values for said portfolio

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[Abstract; figures 1, 7; C3 L18 to C4 L63; C7 L1 to C9 L67; C13 L27 to C65; C19 L19 to C27]. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to modify the teaching of Dembo and include a system and applications of produce set of risk values, store the values in database and retrieve the values from database to reuse, as taught by Moore and Tull, Jr., to tabulate the risk values calculated for different set of parameters for distribution and future use and to provide data processing means for determining a price for a basket of shares which is packaged as a debt instrument so as to reflect the current aggregate value of the shares.

Furthermore, it is well known of one of ordinary skill in the art of statistics and probability math that computing probabilities of events in finite sample is often greatly simplified by use of rules for permutations and combinations. Furthermore wherein said proposed transaction comprises **altering** the amount of at least one financial instrument in said set of financial instruments, wherein said proposed transaction comprises adding a financial instrument to said set of financial instruments, and wherein steps (v) and (vi) are performed for a second proposed transaction and said second measure of said at least one risk metric (table or spread sheet) is produced for each of said proposed transactions are business decisions and making a spread sheet (tables) with different evaluation (calculation, numbers, updates) are not an inventive idea and it is used in every business, engineering and industrial analysis to compare differences between different set of analysis with different criteria and assumption for the same problem. The examiner takes official notice that he has done many engineering analysis in area of

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instrumentation & control, failure mode analysis, risk assessment and procurement of equipment.

Re. Claim 2, Dembo does not disclose the step of defining whether each instrument risk value produced is stored in step (iv) as an individual instrument risk value or is aggregated with at least one other financial instrument value and stored as an aggregated value. However, Moore discloses defining rules, storing data separately, or aggregated [Abs; C1 L8 to C2 L50; C5 L48 to C6 L15; C17 L57-L62; C24 L37-L63; C30 L25-L67]. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to modify the teaching of Dembo and include define values as individual or aggregate, as taught by Moore, to tabulate appropriate values for situation and scenario.

Re. Claim 3, Dembo discloses where in step (v), said user first selects a subset of financial instruments of interest from said set of financial instruments and said desired risk metric is produced for said subset by retrieving determined risk values for each financial instrument in said subset from said database [Abs; C1 L6-L18; C2 L57 to C3 L55].

Re. claims 4-10 & 17, Dembo discloses (17) step of selecting a first subset of said set of financial instruments and determining a risk metric and selecting a second subset of said financial instruments wherein at least one financial instrument in said first

subset is replaced with another financial instrument, and performing steps (iii) through (v) produce a new risk metric [C1 L4-L67; C2 L43 to C3 L12; C4 L50 to C5 L12; C8 L27-L37]. Dembo, explicitly, does not disclose:

(4) where risk factor values for each said risk factor are also stored in said database.

(5) wherein definitions of portfolios of financial instruments stored in said database are predefined,

(6) wherein said definitions of portfolios are stored in said database, and

(7) where steps (iii), a check is first performed to determine if corresponding risk values for an instrument are already present in said database and risk values are only produced for those not already present,

(8) wherein step (iii) and (v) are performed in parallel (processing modules) on subsets of said set of financial instruments,

(9) where step (v) is performed by at least two users (workstations), each of said at least two users producing a risk metric for a different selected subset of said set of financial instruments, and (10) where step (v) is performed in parallel by each of said at least two users.

However, Moore discloses such steps [C1 L8 to C2 L50; C13 L24-L60; C17 L45 to C18 L23]. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to modify the teaching of Dembo and include storing values, definitions in database and checking if the value already exists, as taught by Moore, to save time, a common practice in business, computer and engineering such as

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developing tables, checking ID and password, etc. In communication, control and business multiprocessing (multithreads) are commonly known and all of known operating systems support parallel processing, and it is well known that commonly used NT platform is used by many users (workstations) and users (two, three, ...) can use the same software application at the same time (e.g. WORD).

Re. Claims 21-22, Dembo discloses a risk management system according to claim 20 wherein said risk engine further comprises a user interface to allow a user to define a portfolio of financial instruments for said aggregating engine to operate on, and wherein defined portfolios are stored in said database. [C8 L12-L25; C16 L27-L37].

Re. Claim 23 Dembo, explicitly, does not disclose least two risk engines, each of said at least two risk engines operating in parallel to produce instrument risk values for a subset of said set of financial instruments. However, Moore discloses such steps [C15 L53-59]. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to modify the teaching of Dembo and include several risk engines (GRMS) operating in parallel, as taught by Moore, to add redundancy in case one system fails the user switch to next system. It is well known that most of DB systems are redundant and synchronized in recover data in case one of the database engines fails.

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Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dembo in view of Moore, as applied to claim 1 above, and further in view of Ohata et al (herein Ohata; US 5,864,857).

Re. Claims 11-14 Dembo, explicitly, does not disclose wherein said database is organized as a multi-dimensional structure, one axis of said structure representing financial instruments, another axis of said structure representing scenarios and another axis of said structure representing time,

wherein data is read from and written to said database in multi-dimensional groupings, wherein said grouping includes a selected amount of adjacent data from each of said axes of said structure,

wherein said selected amount of adjacent data on a first axis differs from said selected amount of data on a second axis, and

wherein the total size of storage required for said multi-dimensional groupings does not exceed a preselected size.

However, Ohata discloses such steps [Abs; C1 L5 to C4 L37; C9 L1-L67; C12 L45 to C13 L5]. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to modify the teaching of Dembo and include processing and storing multi-dimension data, as taught by Ohata, to pair the data and store them on a page for fast retrieval.

Response to Arguments

3. Applicant's arguments filed 10/20/2003 have been fully considered but they are not persuasive. Because: Dembo teaches calculating (evaluating) the value of the target option (financial instrument) for all of the scenarios considered and calculating the value of the selected financial instruments for all scenarios [see the claims]. Further, Dembo's system is capable storing risk value at an instrument level, because, Dembo teaches databases which store information (objects, price, volume, id, etc.) relating to the various types of short-term options. Moore et al system is for determining *financial* risk and exposure and it is rule-base (rule-based engine) which means the *financial* risk calculations follow the a systematic business rule (step by step) and it is well known that good software code instructions are methodically written, weather it is business, finance or engineering.

In response to applicant's argument that Ohata et al does not teach a risk management system is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Ohata et al teaches multi-dimensional data management method in a database management system for supporting many faceted analysis of data.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 CFR ' 1.111 (c) to consider the references fully when responding to this action.

US 6,317,726 to O'Shaughnessy, Nov. 13, 2001 "Automated strategies for investment management", this inventions invention is in the field of using a computer to select corporate stocks for investment, evaluated of stock portfolios, and market Capitalization contained 50 stocks.

(previously provided) US Pat 6,27,8981 to Dembo et al, August 21, 2001 "Computer-implemented method and apparatus for portfolio compression", this invention discloses data processing, and in particular to a computer-implemented method and apparatus for compressing a portfolio of financial instruments to enable, for example, more efficient risk management processing than is otherwise achievable with an uncompressed portfolio.

(previously provided) US Pat 6,078,904 to Rebane, June 20, 2000 "Risk direct asset allocation and risk resolved CAPM for optimally allocating investment assets in an investment portfolio", this invention discloses Risk Direct Asset Allocation and Risk Resolved CAPM, overcomes the limitations of conventional portfolio design methods by determining for an individual investor that investor's risk tolerance function and selecting a monetary allocation of investment assets according to both the risk tolerance function, and quantifiable risk dispersion characteristics of a given allocation of investment assets in the portfolio.

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(previously provided) US Pat 5,303,328 to Masui, April 12, 1994 "Neural network system for determining optimal solution", this invention discloses a neural network system includes an input unit, an operation control unit, a parameter setting unit, a neural network group unit, and a display unit, with the present invention, as compared with the conventional neural network, there can be obtained better solutions to an optimization problem at a high speed. Moreover, the solutions thus attained can be limited to feasible solutions satisfying constraints. In addition, in the securities portfolio problem described as an example of the mathematical programming problem, distribution ratios can be employed to solve the problem.

(previously provided) US Pat 5,819,238 to Fernholz, October 6, 1998 "Apparatus and accompanying methods for automatically modifying a financial portfolio through dynamic re-weighting based on a non-constant function of current capitalization weights", this invention discloses an apparatus and methods for automatically modifying a financial portfolio having a pre-defined universe of securities, that tracks a given capitalization weighted index, through dynamic re-weighting of a position held in each such security, wherein a current weight accorded to each such security, relative to others in the portfolio, is proportional to a non-constant function of current capitalization weights of the securities in the index. The invention is particularly, though not exclusively suited, for use in managing an index fund composed of a pre-defined set of equity securities.

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(previously provided) ProQuest NPL article "Banamex cuts the risk designer-style, Wall Street & Technology, New York; Mar 1994, Zecher, discloses RiskWatch Risk Management OOP.

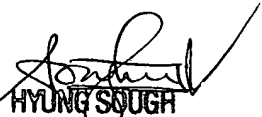
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harish T Dass whose telephone number is 703-305-4694. The examiner can normally be reached on 8:00 AM to 4:50 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung S Sough can be reached on 703-308-0505. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Harish T Dass HTD
Examiner
Art Unit 3628

1/12/04


HYUNG SOUGH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600